

Federal Energy Management Program

U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy



FEMP FIRST THURSDAY
semin@rs 2.0
What you need to know...online, live, and anytime.



Federal Fleet Management 101

Instructor: Amanda Sahl
Federal Energy Management Program
FEMP Expert: Brad Gustafson

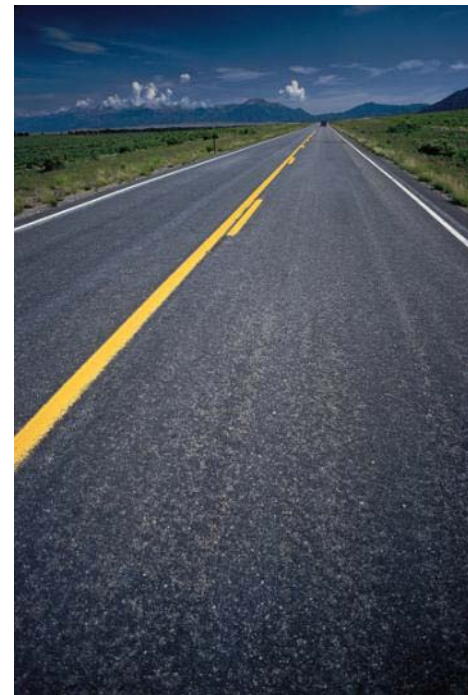
www.femp.energy.gov/training

FEMP
Federal Energy Management Program

Learner Objectives

After completing this seminar, the learner will be able to explain:

1. The 3 driving principles of petroleum reduction;
2. The responsibilities of the Fleet Location Manager;
3. The need to collect fleet data;
4. Ways to reduce vehicle miles traveled;



Learner Objectives (cont.)

5. Ways to increase fuel efficiency;
6. Ways to increase the use of alternative fuels;
7. Annual reporting requirements; and,
8. Federal fleet management resources available through FEMP.



Regulatory and Executive Order Basis

- Energy Policy Act of 1992
- Energy Policy Act of 2005
- Energy Conservation Reauthorization Act
- Energy Independence and Security Act of 2007
- National Defense Authorization Act of 2008
- E.O. 13423
- E.O. 13514



Target Audience 1: Headquarters Fleet Manager

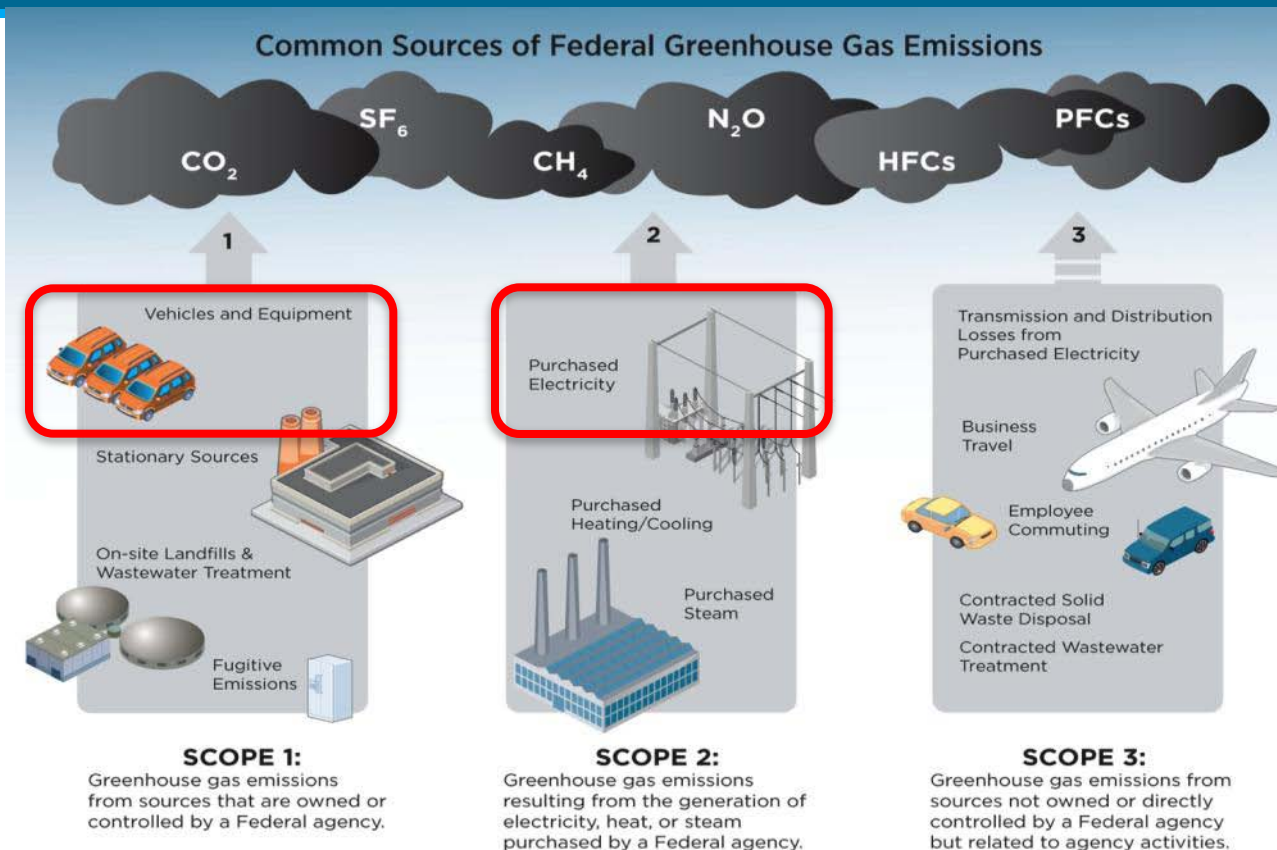


- Approve site-specific strategies
- Facilitate and monitor agency-wide petroleum reduction strategies
- Support Location Fleet Manager in petroleum reduction strategies

Target Audience 2: Location Fleet Manager



- Ensure location meets agency and Federal requirements
- Ensure vehicle and fleet size is optimized for mission need
- Implement petroleum reduction strategies while monitoring performance
- Refine location strategy based on results



Executive Order 13514

Reduce GHG Emissions

Reduce Petroleum Consumption

Create agency
strategic plan
*EISA Sec. 142,
E.O. 13514*

Acquire
PHEVs
E.O. 13423

Increase
Alternative fuel use
*EISA Sec.142,
E.O. 13423*

Acquire low GHG
emitting Vehicles
EISA Sec.141

Report Annually
*EPAct 1992,
EPAct 2005*

Implement

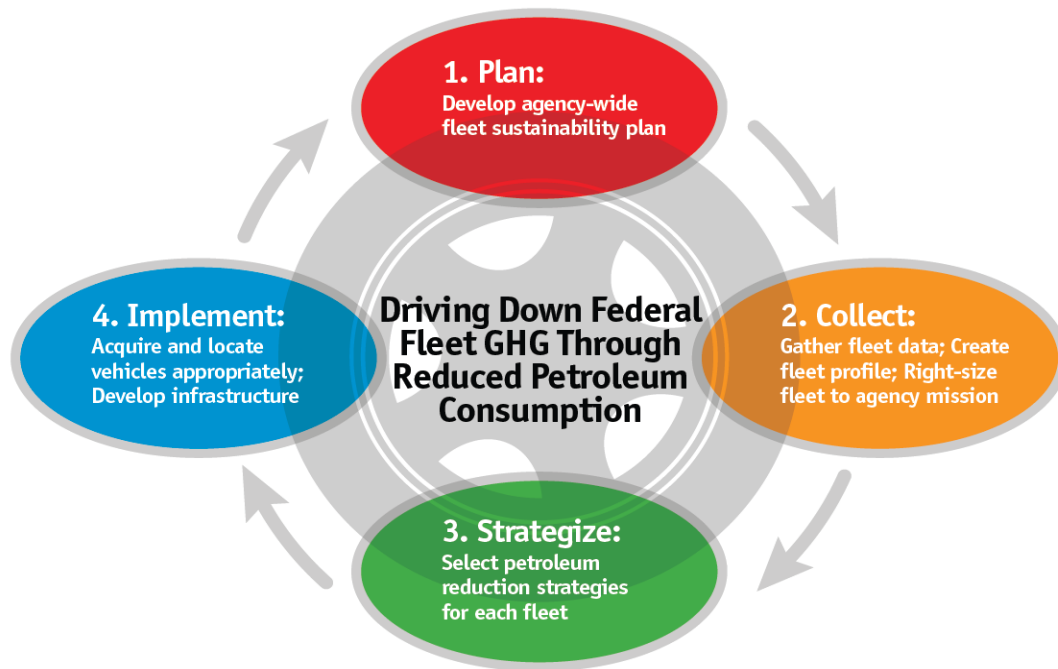
- Acquire AFVs (*EPAct 1992*)
- Use AF in AFVs (*EPAct 2005 Sec. 701*)
- Install renewable fuel pumps (*EISA Sec. 246*)

In Response to E.O. 13514, FEMP developed:

- **Guidance: *E.O. 13514:***
Fleet Management Guidance Document
 - *Roles and responsibilities*
 - *Fleet mandates including applicability*
- **Handbook: *E.O. 13514:***
Fleet Management Handbook
 - *Roles and responsibilities*
 - *Data collection strategies*
 - *How to reach your goals*



Process: Plan, Collect, Strategize, Implement



Guidance:

1. Plan

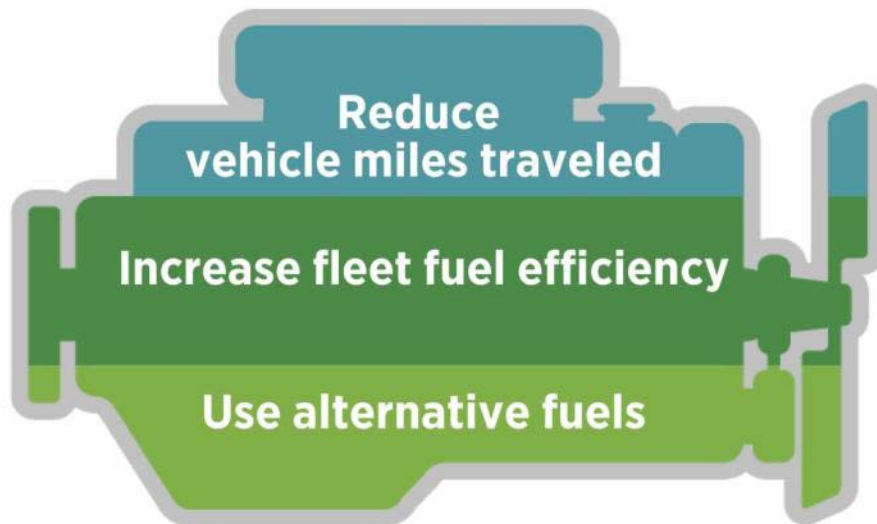
Handbook:

2. Collect

3. Strategize

4. Implement

Driving Principles of Petroleum Reduction



Guidance Document



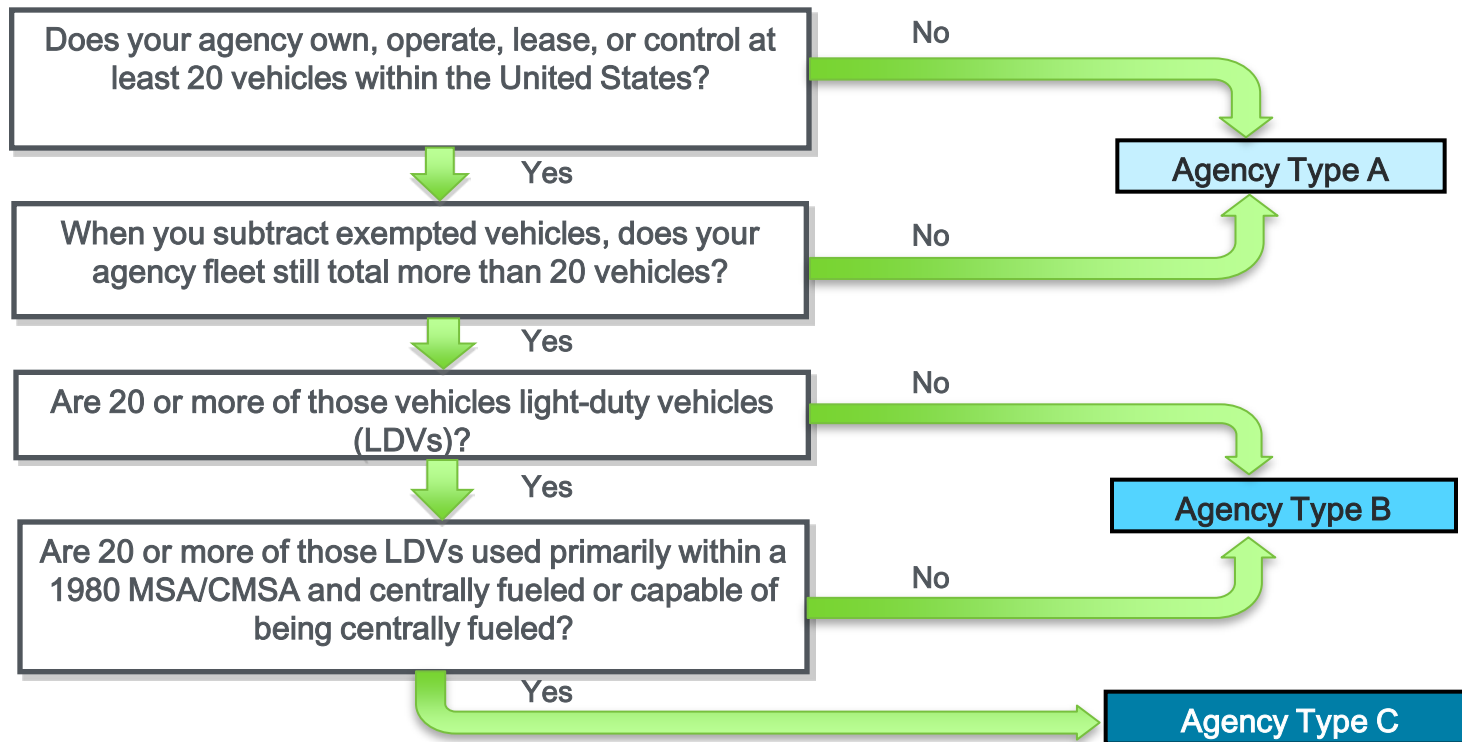
Goals

Requirements





Which Requirements Apply?



Requirement

Fleet Requirement

Petroleum Reduction

Alternative Fuel Use Increase

GHG Emissions Reductions

Question to Answer

What is the **right number** of fuel-efficient vehicles needed to meet your **agency's mission**?

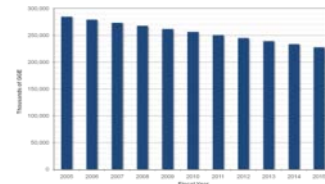
What **strategies** can your agency use to reduce its petroleum consumption?

What **fuel** is the **best fit** for a given site and/or vehicle?

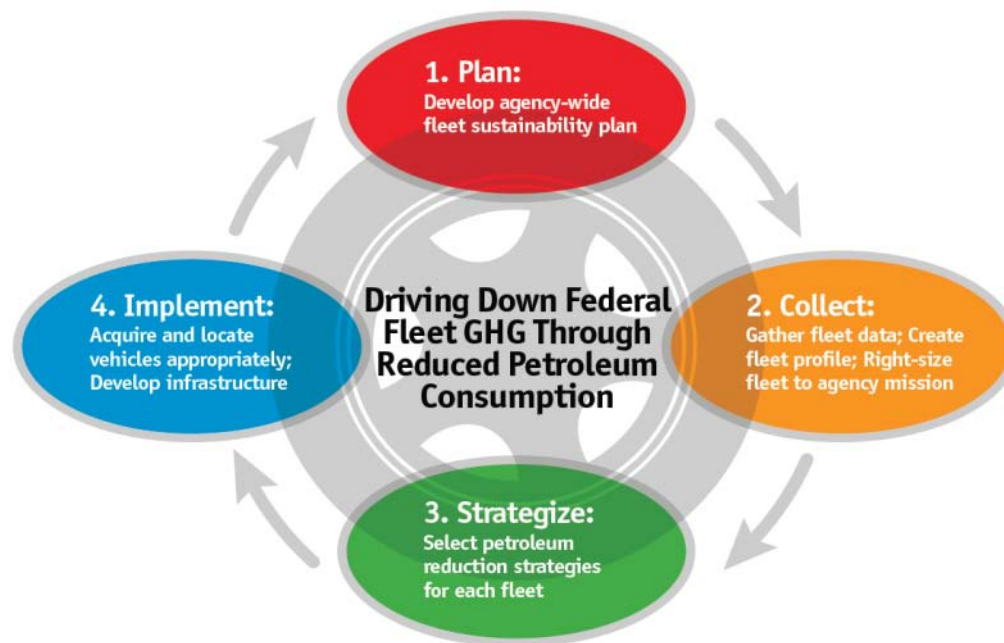
What will be the **net impact** of these measures on **GHG emissions**?

How

VAM
Vehicle Assessment
Methodology



Collect



Gather fleet data; Create fleet profile; Right-size fleet to agency mission

- Compile and manage accurate and comprehensive fleet data including:

- Vehicle inventory
- Fleet utilization
- Fuel use, etc.
- Data allows you to:
 - Strategize
 - Optimize decisions
 - Right-size your fleet (through VAM)

Vehicle Inventory Management System (VIMS)

2. Collect:

Gather fleet data; Create
fleet profile; Right-size
fleet to agency mission

- Compile vehicle inventory
- Analyze the fleet's mission
- Identify opportunities to reduce and “right-size”
- Streamline annual FAST call



2. Collect:

Gather fleet data; Create
fleet profile; Right-size
fleet to agency mission

Vehicle Allocation Methodology (VAM)

- Objective characteristics to collect:
 - Number of vehicle users at site
 - User-to-vehicle ratio
 - Trips per vehicle
 - Vehicle mission
 - Terrain and climate
 - Fleet condition and downtime

**Generate a
fleet profile**

**Develop
minimum
utilization
criteria**

**Compare existing
fleet to actual
mission
requirements**

**Develop
acquisition plan**

**Review and
update VAM**

Utilization study,
vehicle inventory
and **mission
requirements**

**Validate vehicle
need** based on
mission needs,
define baseline of
required fleet

**Dispose or
reassign**
vehicles as
needed

Evaluate
alternatives
where possible

**Create a multi-year
acquisition plan,**
recommend vehicle
type and size by
location, and place
AFVs where fuel is
available

**Update VAM at
least every five
years**

Optimization of Fleet

2. Collect:

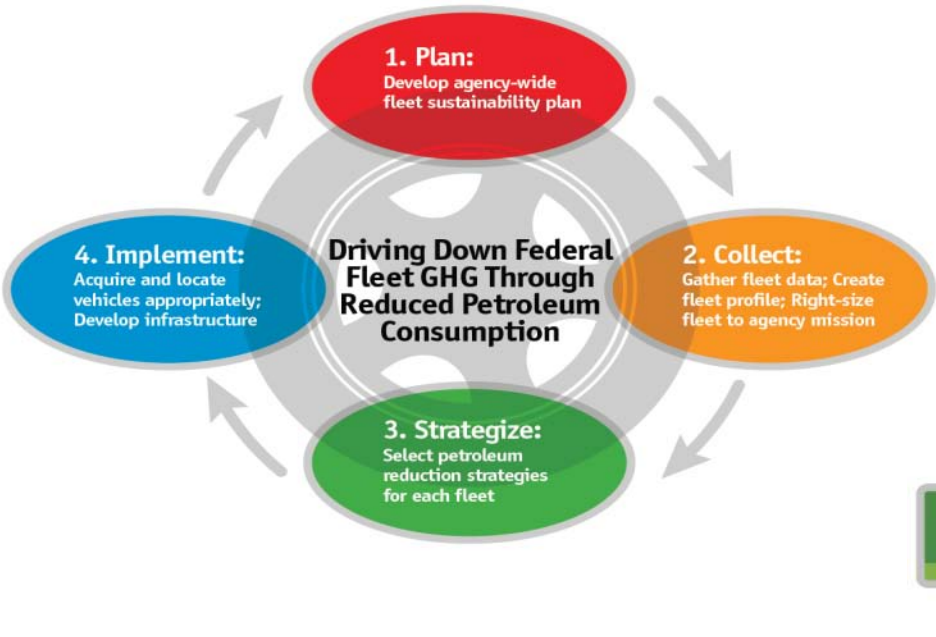
Gather fleet data; Create fleet profile; Right-size fleet to agency mission

The ultimate goal of data collection is to optimize the composition and use of the Agency's fleet.

- Fuel efficient
- Cost effective
- Meets mission
- Meets regulatory requirements
- Achieves fleet management goals



Strategize





Principle 1: Reduce Vehicle Miles Traveled (VMT)

Low or No Cost Solutions

- Consolidate trips
- Eliminate trips
- Use mass transportation
- Use agency shuttles





Improved scheduling and routing

- Do more work with the same or fewer resources
- Optimize master schedules for recurring tasks
- Eliminate unnecessary travel and lost time
- Increase driver/worker productivity
- Eliminate unauthorized use of vehicles, routes, or stops



Principle 2: Increase Fleet Fuel Efficiency

Acquire higher fuel efficiency vehicles:

- Will a smaller vehicle get the job done?
- Is there a more fuel-efficient vehicle that would meet my needs?



Principle 2: Increase Fleet Fuel Efficiency

Maintain vehicles:

- Keep your vehicle engines properly tuned
- Keep tires properly inflated to the recommended tire pressure
- Check and replace air filters regularly
- Use the recommended grade of motor oil



Principle 2: Increase Fleet Fuel Efficiency

Drive More Efficiently

- Drive at speeds that conserve fuel
- Use cruise control
- Accelerate smoothly
- Brake softly
- Remove excess weight





Principle 2: Increase Fleet Fuel Efficiency

Avoid excessive Idling (light duty vehicles)

- Turn off your engine when you are parked or stopped
- Avoid using a remote vehicle starter
- Idle reduction technologies
 - coolant heaters,
 - air heaters, and
 - energy recovery systems





Principle 2: Increase Fleet Fuel Efficiency

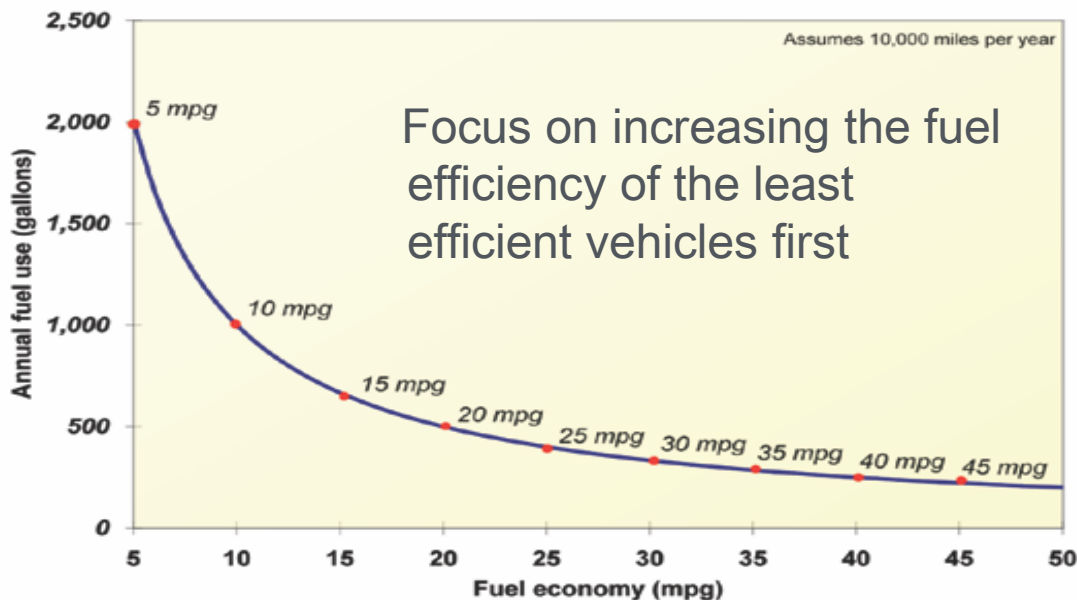
Avoid excessive Idling:

- Heavy duty trucks
- Law enforcement vehicles
- Flight line support vehicles





Principle 2: Increase Fleet Fuel Efficiency



BREAK



Principle 3: Use Alternative Fuels

Alternative Fuels include but are not limited to:

- E85
- Compressed natural gas (CNG)
- Liquefied natural gas (LNG)
- Liquefied petroleum gas or propane (LPG)
- Neat (100%) biodiesel or biodiesel blends
- Electricity



Principle 3: Use Alternative Fuels

EPAct 2005 Sec. 701: Dual-fueled AFVs
MUST use alternative fuels

- E85 FFVs,
- Bi-fuel CNG or LNG vehicles and
- Bi-fuel LPG vehicles





Developing AF Strategy for Location

1. Determine potential demand for alternative fuel
2. Identify existing fueling infrastructure, both for alternative and conventional fuel
3. Develop site-specific AFV and/or biodiesel vehicle acquisition strategies
4. Develop an infrastructure development plan, if needed

Developing a Vehicle Acquisition Strategy

Vehicle Type	Fuel Economy	Operating Costs	Driving Environment
Gasoline	30 mpg	13.5 cents a mile	Any Drive Cycle, Set Route or Central Refueling
Biodiesel	33 mpg	13.5 cents a mile	Any Drive Cycle, Set Route or Central Refueling
E-85	22 mpg	15.3 cents a mile	Any Drive Cycle, Set Route or Central Refueling
Hybrid	+ 30%	9 cents a mile	- Stop and go environments - Locations without alternative fueling stations
Plug in Hybrid	+ 450%	<6 cents a mile	- Longer driving distance needs > 100 miles a day
Electric Vehicle	+ 350%	2 cents a mile	- Shorter driving distance <100 miles a day

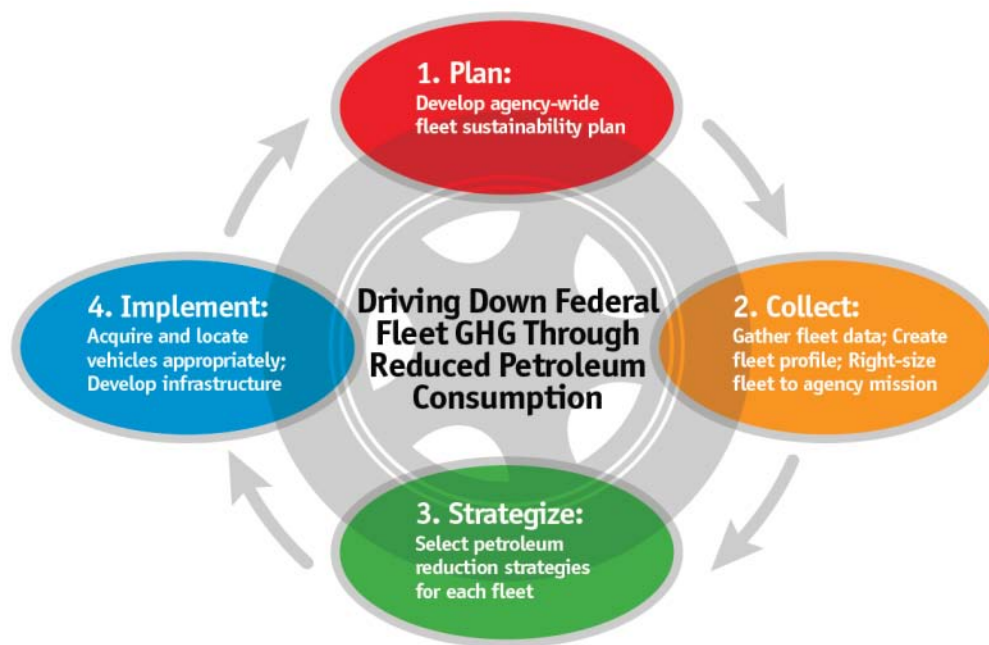


Develop Alternative Fuel Infrastructure

- E85 Infrastructure
- Biodiesel or Biodiesel Blend Infrastructure
- CNG, LNG, or propane refueling
- Electric Vehicle Supply Equipment (EVSE)



Implement



4. Implement:

Acquire and locate
vehicles appropriately;
Develop infrastructure

Federal Fleet Acquisition

- AFV Acquisition Credits
by Vehicle Type (*EPA Act 1992*)
- Low-GHG Emitting Vehicle
Requirements (*EISA 141*)
- PHEV Requirements
(Plug-in Hybrid Electric Vehicles)
(*E.O. 13423*)





Petroleum Reduction Strategy



Fleet Acquisition

Vehicle Acquisition Action

Dispose of or reduce VMT –
can free up budget

*Acquire higher fuel economy vehicles and
anti-idling equipment*

Acquire AFVs, EVs, or diesel vehicles to
support AF, biodiesel, or EV strategies

4. Implement:

Acquire and locate
vehicles appropriately;
Develop infrastructure

Federal Vehicle Acquisition

Tools

- GSA Auto Choice
- GSA Fleet
- EPA's Green Vehicle Guide
- FEMP Optimization Tool

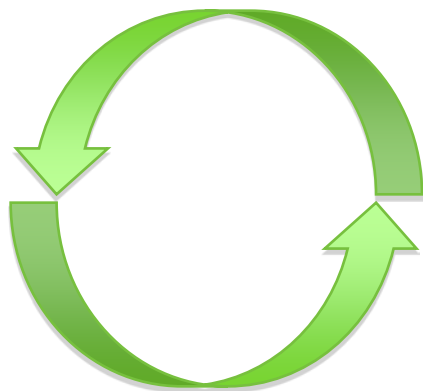
Strategy

- Replace lowest fuel efficiency vehicles
- Place AFVs where alternative fuels exist or are planned



4. Implement:

Acquire and locate
vehicles appropriately;
Develop infrastructure



Continuous Evaluation of Petroleum Reduction Strategy

- An effective strategy meets mandates while meeting mission
- Compliance with mandates
- Understanding constraints
- Newer technologies
- Optimizing resources

4. Implement:

Acquire and locate
vehicles appropriately;
Develop infrastructure



Reporting and Monitoring

- **Location Fleet Manager**
 - Complete and accurate record keeping
 - Complete and accurate response to data calls
- **Reduce Your Reporting Workload**
 - Coordinate reporting requirements
 - Plan ahead (VIMS can produce reports)

FAST Reporting

Annual input of vehicle inventory, cost, and fuel use data

EPAct 1992
EPAct 2005
EO 13423
EO 13514
EISA §141
EISA §142

OMB Scorecards

Performance, actions, and plans towards meeting agency goals

Annual Fleet Compliance Report

Agency's annual compliance with fleet requirements
EPAct 1992
ECRA 1998

EPAct 2005 §701 Waiver Requests

Requests for vehicle waivers from EPAct §701 requirement
EPAct 2005 §701

EISA §246 Renewable Pumps

Agency status in installing renewable fuel pumps at Federal fleet fueling centers
EISA §246

Updated Fleet Plans

Revised plan to meet petroleum and alternative fuel requirements (*required if failed to meet milestone*)
EISA §142

OMB A-11 Report

Current and projected fleet budget estimates

Mid-Year OMB Scorecards

Mid-year report on actions and plans towards meeting agency goals

Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep



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FEMP Resources

- Guidance: *E.O. 13514: Fleet Management Guidance Document*
- Handbook: *E.O. 13514: Fleet Management Handbook*
- Web site's Legislative section contains relevant summary and links to laws



FEMP Resources

Website

- Federal Requirements
- Technology Resources
- Infrastructure Development
- Data, Analysis, Trends
- INTERFUEL Committee
- Resources
- Contacts

www.femp.energy.gov

FEMP First Thursday Seminars

Alternative Fuels & Advanced Vehicles Data Center

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U.S. Department of Energy
Energy Efficiency and Renewable Energy

Bringing you a prosperous future where energy is
clean, abundant, reliable, and affordable



EERE Home

Alternative Fuels & Advanced Vehicles Data Center

[About the AFDC](#) [Fuels](#) [Vehicles](#) [Fleets](#) [Incentives & Laws](#) [Data, Analysis & Trends](#) [Information Resources](#)



The Alternative Fuels and Advanced Vehicles Data Center (AFDC, formerly known as the Alternative Fuels Data Center) provides a wide range of information and resources to enable the use of alternative fuels (as defined by the [Energy Policy Act of 1992](#)), in addition to other petroleum reduction options such as advanced vehicles, fuel blends, idle reduction, and fuel economy.

This site is sponsored by the U.S. Department of Energy's [Clean Cities](#) initiative.



Data, Analysis, and Trends

Our [Data, Analysis, and Trends](#) section provides industry trends and facts based on data analysis.

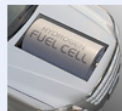
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Alternative Fuel Portals

- [Biodiesel](#)
- [Electricity](#)
- [Ethanol](#)
- [Hydrogen](#)
- [Natural Gas](#)
- [Propane](#)

[More Fuels Information](#)



Select Vehicle Information

- [Conversions](#)
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Quick Links to AFDC Tools

- [Vehicle Make & Model Search](#)
- [Alternative Fueling Station Locator](#)
- [Incentives & Laws](#)
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NEWS

[LA Port Launches 2009 Alternative Fuel Truck Incentive Program](#)
May 19, 2009

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EVENTS

[Fuel Ethanol Workshop & Expo](#)
06/15/2009 - 06/18/2009

[More Events](#)

FEATURES



TransAtlas



Mobile Fueling Station Locator

www.afdc.energy.gov

FEMP First Thursday Seminars

Alternative Fuels & Advanced Vehicles Data Center

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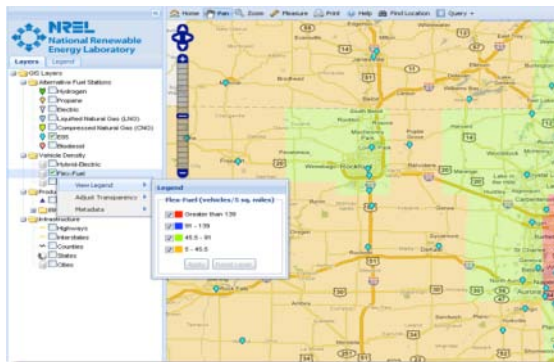
Alternative Fuel Station Locator & mobile station locator

Waivered Vehicle Location Data

www.afdc.energy.gov

FEMP Technical Assistance

- FEMP will issue a **Fleet Call for Technical Assistance** in February!
- Subscribe to the **Fleet Files Newsletter** to be notified
- Examples of Technical Assistance:
 - FleetAtlas and TransAtlas
 - Optimization Tool
 - Fuel Use tracking
 - Alternative fuel strategy creation



www.femp.energy.gov

[Peterbilt Motors - Model 335 HE](#)**Detail**

Model: Model 335 HE
Manufacturer: [Peterbilt Motors](#)
Manufacturer Phone: 940-591-4000
Application: Other
GVWR: 33000 lbs
Maximum Seating Capacity: 3
Transmission Make: Eaton
Description: Medium-duty hybrid electric truck for pickup and delivery, fire and rescue, beverage, and municipal utility services.

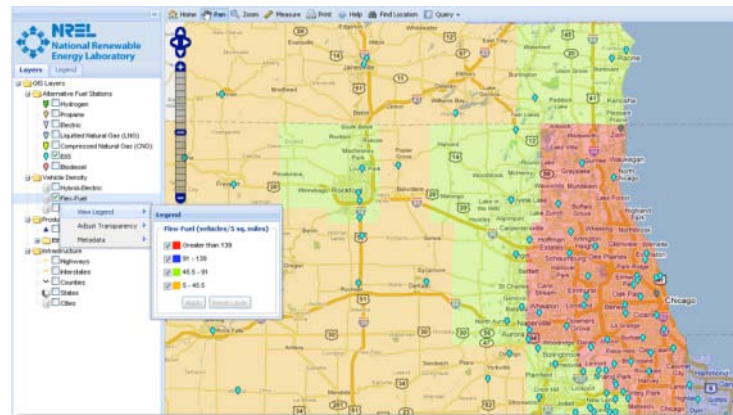


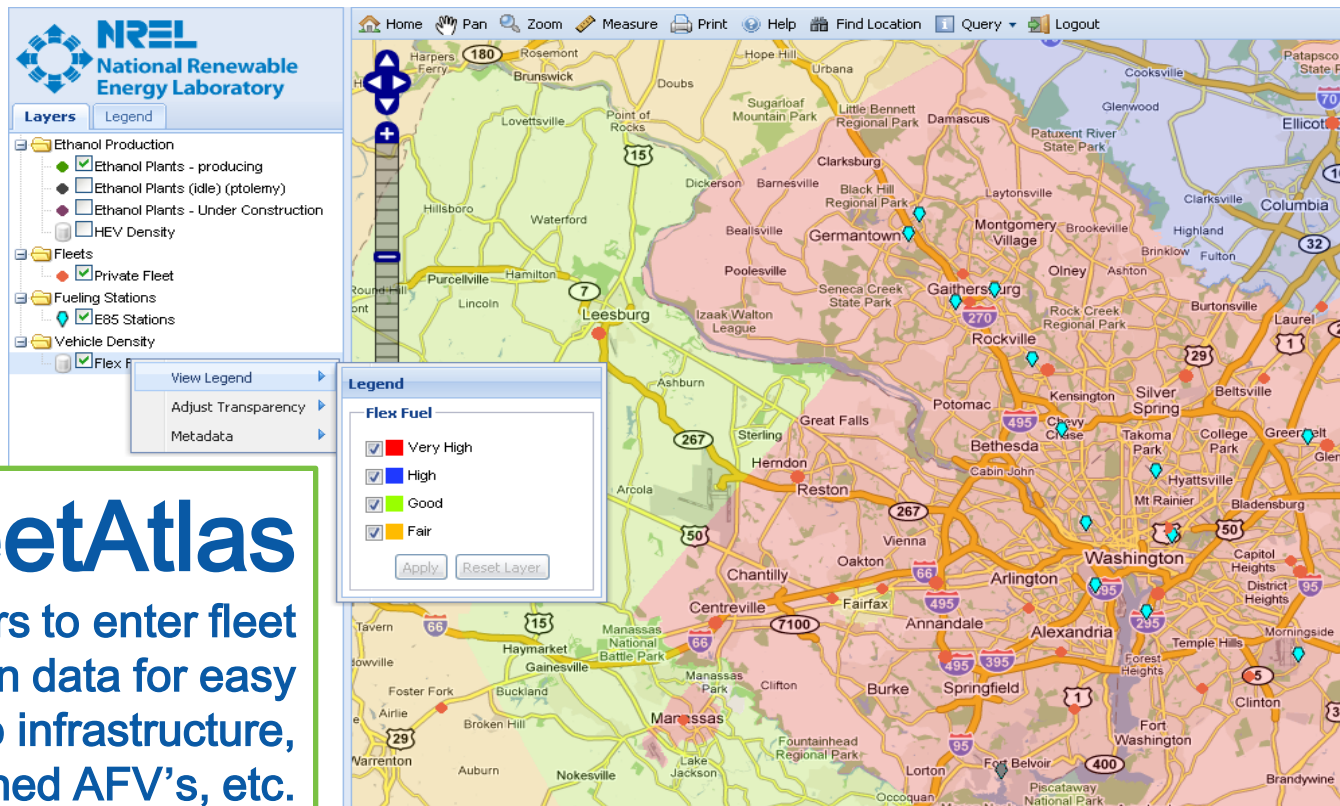
Compatible Hybrid Propulsion Systems:
[Parallel Hybrid with Power Take-Off \(PTO\)](#)

Light Duty & Heavy Duty Vehicle Searches

TransAtlas

www.afdc.energy.gov





FleetAtlas

Allows users to enter fleet location data for easy comparison to infrastructure, Publicly-owned AFV's, etc.

Federal Fleet Optimization Tool



A small Federal fleet (~1,200 vehicles) compared to actual FY10 acquisitions could have:

- Tripled the estimated petroleum reductions
- Dramatically increased alternative fuel use
- Deployed new technology vehicles

...all with the same budget....

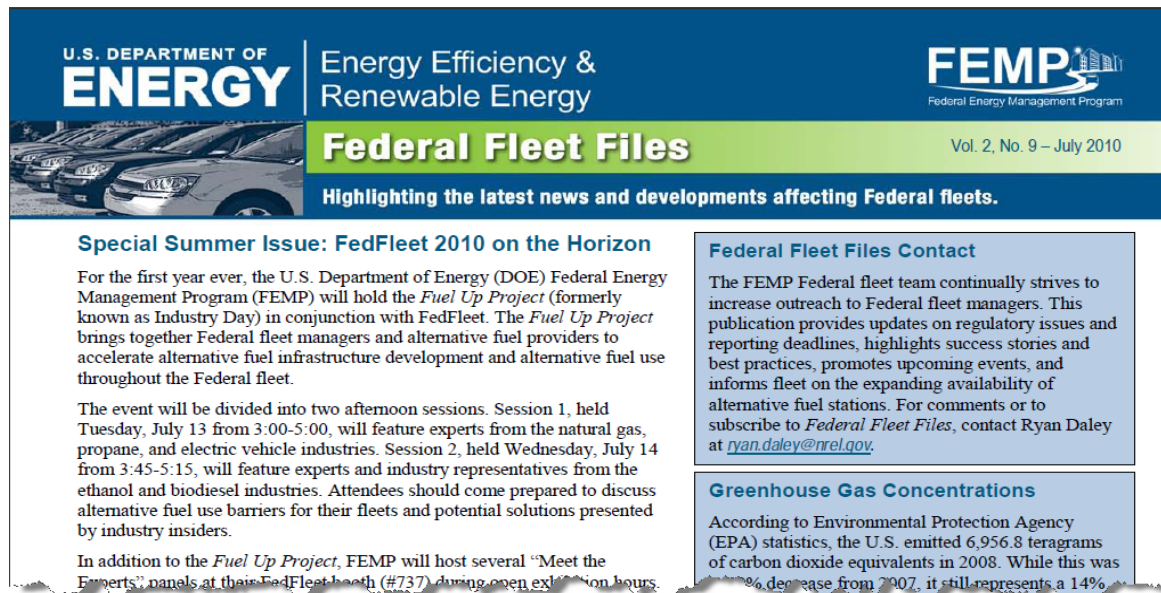


www.femp.energy.gov

FEMP Training

- First Thursdays
- FedFleet Conference
- Web-based overview of Guidance and Handbook
- Specialized training upon request

Subscribe to Federal Fleet Files

The image shows the cover of the 'Federal Fleet Files' magazine. At the top left is the U.S. Department of Energy logo. To its right is the text 'Energy Efficiency & Renewable Energy'. On the far right is the 'FEMP' logo with the text 'Federal Energy Management Program' underneath. Below the logo area is a photograph of several cars parked in a row. Overlaid on the right side of the photo is the title 'Federal Fleet Files' in large, bold, green letters. To the right of the title, it says 'Vol. 2, No. 9 - July 2010'. Below the title is a blue banner with white text that reads 'Highlighting the latest news and developments affecting Federal fleets.' The main body of the cover is white and contains three sections of text. The first section is titled 'Special Summer Issue: FedFleet 2010 on the Horizon' and discusses the 'Fuel Up Project' event. The second section is titled 'Federal Fleet Files Contact' and provides contact information for Ryan Daley. The third section is titled 'Greenhouse Gas Concentrations' and mentions EPA statistics on carbon dioxide emissions.

U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

FEMP
Federal Energy Management Program

Federal Fleet Files Vol. 2, No. 9 - July 2010

Highlighting the latest news and developments affecting Federal fleets.

Special Summer Issue: FedFleet 2010 on the Horizon

For the first year ever, the U.S. Department of Energy (DOE) Federal Energy Management Program (FEMP) will hold the *Fuel Up Project* (formerly known as Industry Day) in conjunction with FedFleet. The *Fuel Up Project* brings together Federal fleet managers and alternative fuel providers to accelerate alternative fuel infrastructure development and alternative fuel use throughout the Federal fleet.

The event will be divided into two afternoon sessions. Session 1, held Tuesday, July 13 from 3:00-5:00, will feature experts from the natural gas, propane, and electric vehicle industries. Session 2, held Wednesday, July 14 from 3:45-5:15, will feature experts and industry representatives from the ethanol and biodiesel industries. Attendees should come prepared to discuss alternative fuel use barriers for their fleets and potential solutions presented by industry insiders.

In addition to the *Fuel Up Project*, FEMP will host several "Meet the Experts" panels at their FedFleet booth (#737) during open exhibition hours.

Federal Fleet Files Contact

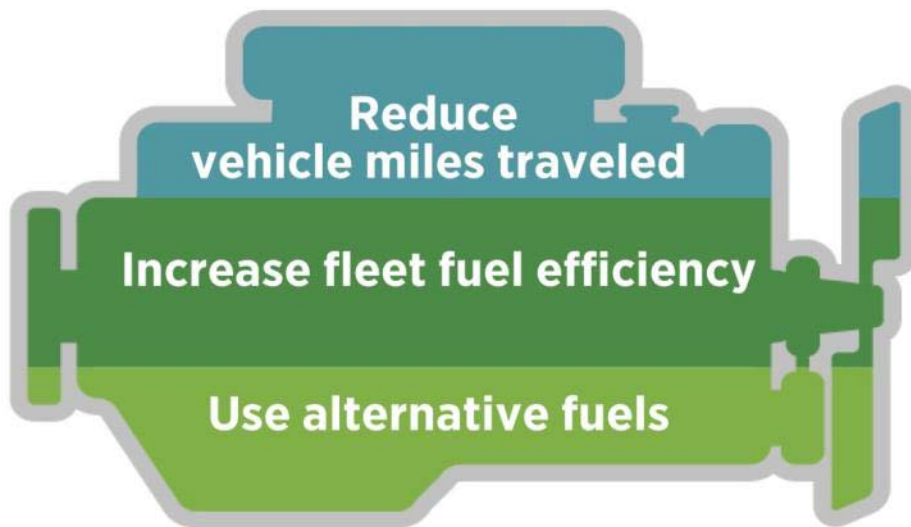
The FEMP Federal fleet team continually strives to increase outreach to Federal fleet managers. This publication provides updates on regulatory issues and reporting deadlines, highlights success stories and best practices, promotes upcoming events, and informs fleet on the expanding availability of alternative fuel stations. For comments or to subscribe to *Federal Fleet Files*, contact Ryan Daley at ryan.daley@nrel.gov.

Greenhouse Gas Concentrations

According to Environmental Protection Agency (EPA) statistics, the U.S. emitted 6,956.8 teragrams of carbon dioxide equivalents in 2008. While this was a 14% decrease from 2007, it still represents a 14%

To subscribe: Email Ryan Daley: ryan.daley@nrel.gov

Summary – When Making Decisions, Remember



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www.eere.energy.gov/femp/program/fedfleet_management.html